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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,892

06/06/2006

Yasuhiro Izawa

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25944 7590 03/09/2010

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

WILLS, MONIQUE M

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

03/09/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/581,892	Applicant(s) IZAWA ET AL.	
	Examiner Monique M. Wills	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,10, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 2,6-9,11,14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/17/09, 7/31/06 & 6/6/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Foreign Priority Documents

The Japanese foreign priority document(s) PCT/JP04/01929 , filed June 6, 2006 and submitted under 35 U.S.C. § 119 (a)-(d), has/have been received and placed of record in the file.

Information Disclosure Statement

The information disclosure statements filed April 17, 2005, July 31, 2006 and June 6, 2006 has/have been received and complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Accordingly, the information disclosure statement(s) is/are being considered by the examiner, and an initial copied is attached herewith.

Allowable Subject Matter

Claims 2, 6-9, 11 & 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 2, 6-9 and 11, the instant claims would be allowable over the prior art of record, because the prior art is silent to a fuel cell having a

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hydrogen permeable metal layer and a temperature distribution equalizing portion catalyst.

With respect to claims 14 & 15, the instant claims would be allowable over the prior art of record, because the prior art is silent to a fuel cell comprising a temperature distribution equalizing portion including first and second switchover elements.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5, 10, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sammes et al., U.S. Pat. Application Pub. 2002/0028367 in view of Sridhar et al. U.S. Pub. 2005/0074650

Sammes et al., teach a manufacturing method of a fuel cell (0006), which comprises a hydrogen-permeable metal layer of a hydrogen-permeable metal and an electrolyte layer that is located on the hydrogen-permeable metal layer and has proton conductivity (0006-0007), said manufacturing method comprising: forming a thin electrolyte layer on the hydrogen-permeable metal layer, wherein the electrolyte layer has pores (0020; 0085; 0087). The operating conditions of

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the fuel cell include a temperature and flow direction of a fluid supplied to the fuel cell. See Figure 7a.

Sammes does not expressly disclose a temperature distribution equalizing portion to: equalize an uneven temperature distribution in the fuel cell; control heat generation in a higher temperature area having a higher temperature than a residual area, suppresses an electrochemical reaction in the higher temperature area.

Sridhar teaches that it is well known in the art to employ coolant loops to control temperature of the fuel cell system and fuel cell constituents. See paragraph 76.

Therefore, it would have been obvious to one of ordinary skill at the time the instant invention was made to employ the cooling system of Sridhar, in the fuel cell system of Sammes, in order to control temperature of the fuel cell system and fuel cell constituents. With respect to the temperature distribution equalizing functions, the coolant will control temperature of the fuel cell, thus it would be reasonable to expect that uneven temperature distribution will be equalized, heat generation in a higher temperature area than residual area will be controlled and the electrochemical reaction in the higher temperature area will be suppressed.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/

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Examiner, Art Unit 1795

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795